TECHNIQUE FOR IMPLANTATION OF THE AVCO BLADDER STIMULATOR

by Adrian Kantrowitz, M.D.

With the abdomen prepared and draped in the usual fashion, a 15 cm suprapubic midline incision is made in the skin. The recti are separated in the midline and the peritoneum retracted cephalad entering the space of Retzius. About 4.0-5.0 cm of the musculature of the bladder's anterior wall is exposed by blunt dissection. A second skin incision, 4.0 cm in length, on the right side at the level of the umbilicus, is carried down to the anterior rectus sheath. A pocket is formed by blunt and sharp dissection immediately anterior to the anterior rectus sheath. A Kelly clamp is inserted through the subcutaneous tissues, forming a tunnel connecting the two incisions.

The Avco Bladder Stimulator is implanted in the pocket, and the stainless-steel electrodes are passed through the tunnel to the first incision. To preserve the stimulator's hermetic sealing, no sutures are passed through its silicone sheath. Wound closure is effected by a series of plain catgut sutures for the subcutaneous tissues and silk sutures for the skin. The device is thereby firmly fixed.

By means of a needle at the distal end, each electrode is implanted in the anterior surface of the bladder. The first needle is thrust into the detrusor muscle, without entering the bladder lumen, and drawn out approximately 1½ cm from the entry point, pulling the Silastic-insulated portion into the bladder wall. The needle is then turned around, passed back through the bladder wall a second time, to pull the bared portion of the electrode into the bladder wall. Care is again taken to avoid entering the bladder lumen and to bring the needle out near the entry point of the insulated portion. The bared wire is fixed to the first limb of the electrode with a single silk suture. Thus mechanical fixation is achieved with the first limb of this mattress-like suture, and electrical contact achieved by the second limb.

The second electrode is implanted in the same way, approximately 1.0 cm from the first and parallel to it. Experience has shown that with this implantation method the mechanical stress is distributed over a length of the electrodes, whereas concentrated stress at any one point predisposes the wire to breakage at that point.

A small segment of polyethylene film is laid over the electrode assembly, and secured with 6 or 8 silk sutures, to prevent spread of the stimulating current to adjacent tissues. A small drain is placed in the space of Retzius. The recti are reapproximated with interrupted chromic catgut sutures. Closure is effected by interrupted catgut sutures for the fascia and subcutaneous tissues and silk sutures for the skin.

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